

Claim 1 further recites that the sealing ring is pre-tensioned to surround and form a seal around a circumference of a machine element. Claim 1 further recites that the sealing lip includes at least one recess on a side facing radially away from the machine element, in which the recess only connects and allows flow between the area to be sealed off and a surrounding area if the sealing ring is incorrectly mounted and the sealing lip is erroneously curved forward in the direction of the surrounding area. Claim 1 has been amended to recite that the at least one recess extends in the sealing lip and has a depth in a radial direction between the side facing away from the machine element and the side facing the machining element. No new matter has been added. Support for this amendment can be found, for example, at page 4, line 29 to page 5, line 18.

Claim 10, from which claims 11 to 15 ultimately depend, relates to a sealing arrangement for forming a seal around a machine element. Claim 10 recites that the sealing ring includes a sealing lip, the sealing lip including at least one recess on a side of the sealing lip facing radially away from the machine element. Claim 10 has been amended to recite that the at least one recess extends in the sealing lip and has a depth in a radial direction between the side facing radially away from the machine element and the side facing the machining element. No new matter has been added. Support for this amendment can be found, for example, at page 4, line 29 to page 5, line 18.

Hoelzer et al. purportedly relate to a radial shaft sealing ring. See Abstract. Referring to Figure 1 of Hoelzer et al., the washer-like sealing element 2 is curved forward to one side in the direction toward the sealed-off medium and is expanded in the radial direction. The sealing element 2 is stated to contact the sealed-off shaft 3 only in the region of the contact area A. See col. 4, lines 3 to 8. The contact area of the sealing element and the areas of the sealing element adjacent both sides of the contact area in the axial direction are stated to be made with smooth surfaces and merge steadily with each other with a curvature. See col. 4,

lines 11-15. In one embodiment, the base area 4 is stated to be broken by a multiplicity of swirl fins 5. See col. 4, lines 30-33. The swirl fins are stated to have a negative inclination. See col. 4, lines 43-44. Nowhere do Hoelzer et al. disclose, or even suggest, that the sealing has at least one recess extending in the sealing lip and having a depth in a radial direction between a side facing radially away from the machine element and a side facing the machining element, as cited in amended independent claims 1 and 10. Therefore, Hoelzer et al. do not disclose all of the limitations of claim 1 and 10.

To anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of Calif.*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). As more fully set forth above, it is respectfully submitted that Hoelzer et al. do not disclose, or even suggest, a sealing lip having at least one recess extending in the sealing lip and having a depth in a radial direction between a side facing radially away from the machine element and a side facing the machining element, as cited in amended independent claim 1 and 10. Therefore, it is respectfully submitted that Hoelzer et al. do not anticipate amended claims 1 and 10.

Additionally, to reject a claim under 35 U.S.C. § 102, the Examiner must demonstrate that each and every claim limitation is contained in a single prior art reference. See, *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). Still further, not only must each of the claim limitations be identically disclosed, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the inventions of the rejected claims, as

discussed above. See, *Akzo, N.V. v. U.S.I.T.C.*, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986). In particular, it is respectfully submitted that, at least for the reasons discussed above, the reference relied upon would not enable a person having ordinary skill in the art to practice the inventions of the rejected claims, as discussed above.

The Final Office Action alleges that Hoelzer et al. discloses a sealing lip (4) having at least one recess (5) which only connects and allows flow between the area to be sealed off and the surrounding area if the sealing ring is incorrectly mounted and the sealing lip is erroneously curved forward in the direction of the surrounding area. See Final Office Action at p. 2. The Examiner alleges that the convolutions or waves formed in the surface of sealing lip (4) by swirl fins (5) create recesses which may allow flow between the area to be sealed and the surrounding area if the sealing ring is incorrectly mounted. See Final Office Action at p. 4. Applicant respectfully disagrees and submits that the convolutions or waves in the surface of the Hoelzer et al. sealing lip (4) are not recesses. Furthermore, nowhere do Hoelzer et al. disclose, or even suggest, that sealing lip (4), when incorrectly position and facing away from the sealed off area, allows flow between the sealed-off area and the surrounding area. The Final Office Action alleges that "if this seal were installed with the recessed surface contacting the shaft it clearly would not be capable of creating a sealing contact width." See Office Action at p. 4. However, Hoelzer et al. do not indicate the geometry of the sealing lip (4) in this "incorrect" position. It is possible that, given its stated radial flexible polymer make-up, sealing lip (4) conforms to the shaft 3 in such a manner as to prevent flow between the sealed-off area and the surrounding area. See col. 1, line 55 and col. 2, line 19. To the extent that the Examiner is relying on the doctrine of inherency, the Examiner must provide a "basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flows from the teachings of the applied art." See

M.P.E.P. § 2112 (emphasis in original); and see, *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). Thus, the M.P.E.P. and the case law make clear that simply because a certain result or characteristic may occur in the prior art does not establish the inherency of that result or characteristic. Accordingly, the anticipation rejection as to the rejected claims must necessarily fail for the foregoing reasons.

Notwithstanding the above, claims 1 and 10 have been amended to recite that the recess, in contrast to the waves or convolutions of Hoelzer et al., is actually in the sealing lip, i.e., it has a depth which extends radially from a surface facing the surrounding area to a point between said surface and a surface facing the machine element. As indicated above, nowhere do Hoelzer et al. disclose, or even suggest, a sealing lip having at least one recess extending in the sealing lip and having a depth in a radial direction between a side facing radially away from the machine element and a side facing the machining element, as recited in amended claims 1 and 10. Therefore, Hoelzer et al. do not disclose, or even suggest, all of the limitations of amended claims 1 and 10. Applicant submits, therefore, that claims 1 and 10 are patentable over Hoelzer et al. Accordingly, withdrawal of the 35 U.S.C. §102(b) rejection and allowance of claims 1 and 10 is respectfully requested.

As for claims 2 to 6, which ultimately depend from claim 1 and therefore include all of the limitations of claim 1, and claims 11 to 14, 16 and 17, which ultimately depend from claim 10 and therefore include all of the limitations of claim 10, it is respectfully submitted that Hoelzer et al. do not anticipate these dependent claims for at least the same reasons provided above in support of the patentability of amended claims 1 and 10. Therefore, withdrawal of the 35 U.S.C. §102(b) rejection and allowance of claims 1 to 6, 10 to 14, 16 and 17 is respectfully requested.

III. REJECTION OF CLAIMS 10 to 15 UNDER 35 U.S.C. § 102(b)

Claims 10 to 15 were rejected under 35 U.S.C. § 102(b) as anticipated by German Patent No. 198 36 986 A1 ("Guth et al."). It is respectfully submitted that Guth et al. do not anticipate claims 10 to 15, as amended herein, for the following reasons.

Guth et al. purportedly relate to a radial shaft seal. Nowhere do Guth et al. disclose, or even suggest, at least one recess on a side of the sealing lip facing radially away from the machine element, as recited in claim 10. Notwithstanding the above, claim 10 has been amended to recite that the at least one recess extends in the sealing lip and has a depth in a radial direction between a side facing radially away from the machine element and a side facing the machining element. Nowhere do Guth et al. disclose, or even suggest, a sealing lip having at least one recess extending in the sealing lip and having a depth in a radial direction between a side facing radially away from the machine element and a side facing the machining element, as cited in amended independent claim 10. Therefore, Guth et al. do not disclose, or even suggest, all of the limitations of amended claim 10. It is, therefore, respectfully submitted that Guth et al. do not anticipate amended claim 10. Accordingly, withdrawal of the 35 U.S.C. §102(b) rejection and allowance of amended claim 10 is respectfully requested.

As for claims 11 to 15, which ultimately depend from claim 10 and therefore include all of the limitations of claim 10, it is respectfully submitted that Guth et al. do not anticipate these dependent claims for at least the same reasons provided above in support of the patentability of amended claim 10. Therefore, withdrawal of the 35 U.S.C. § 102(b) rejection and allowance of claims 11 to 15 is respectfully requested.

IV. REJECTION OF CLAIMS 7 to 9 UNDER 35 U.S.C. § 103(a)

Claims 7 to 9 were rejected under 35 U.S.C. § 103(a) as unpatentable over Hoelzer et al. in view of Guth et al. It is respectfully submitted that the combination of Hoelzer et al.

and Guth et al. does not render obvious claims 7 to 9 for the following reasons.

Claim 7 to 9 depend from claim 1 and therefore include all the limitations of claim 1. As indicated above, neither Hoelzer et al. nor Guth et al. disclose, or even suggest, at least one recess extending in the sealing lip and having a depth in a radial direction between a side facing radially away from the machine element and a side facing the machining element, as recited in amended claim 1. Therefore, Applicant submits that the combination of Hoelzer et al. and Guth et al. does not disclose all of the limitations of amended claim 1.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). As more fully set forth above, the combination of Hoelzer et al. and Guth et al. does not disclose, or even suggest, at least one recess extending in the sealing lip and having a depth in a radial direction between a side facing radially away from the machine element and a side facing the machining element, as recited in amended claim 1. It is therefore respectfully submitted that the combination of cited references does not render obvious dependent claims 7 to 9.

Moreover, it is respectfully submitted that the cases of In re Fine, supra, and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), make plain that the Final Office Action's

generalized assertions that it would have been obvious to modify or combine references do not properly support a § 103 rejection. It is respectfully submitted that those cases make plain that the Final Office Action reflects a subjective "obvious to try" standard, and therefore does not reflect the proper evidence to support an obviousness rejection based on the references relied upon. In particular, the Court in the case of In re Fine stated that:

The PTO has the burden under section 103 to establish a *prima facie* case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. This it has not done. . . .

Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

In re Fine, 5 U.S.P.Q.2d at 1598 to 1600 (citations omitted; italics in original; emphasis added). Likewise, the Court in the case of In re Jones stated that:

Before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. . . .

Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].

In re Jones, 21 U.S.P.Q.2d at 1943, 1944 (citations omitted; italics in original).

That is exactly the case here since it is believed and respectfully submitted that the present Final Office Action

offers no evidence whatsoever, but only conclusory hindsight, reconstruction and speculation, which these cases have indicated does not constitute evidence that will support a proper obviousness finding. The Final Office Action's allegation that "it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Holzer as taught by DE 986 in order to provide the seal of Holzer with an improved means of returning the fluid medium to the space to be sealed" is completely unsupported and is based on Applicant's own application. Specifically, Applicant's Specification states the following:

On the side radially facing the machine element, the sealing lip may have a recirculating spiral groove for the medium that is to be sealed off. If the sealing lip is mounted correctly, the machine element to be sealed off, for example a shaft, will be surrounded by a thread-shaped recirculating spiral groove. When the sealing ring is used in the specified manner, the medium to be sealed off that is located within the sealing gap beneath the sealing lip is recirculated into the area to be sealed off via the recirculating spiral groove. See Specification at p. 5, line 27 to page 6, line 5.

None of the patents relied upon mention or refer to the motivation alleged in the Final Office Action for making the proposed combination.

The apparent reliance on Applicant's Specification makes plain that the present rejection is based on nothing more than hindsight. As stated by the Federal Circuit in the case of In re Dembiczak, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1999):

Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. . . . Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher"

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. . . . Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability -- the essence of hindsight.

In re Dembiczak, 50 U.S.P.Q.2d at 1617 (citations omitted).

Unsupported assertions are not evidence as to why a person having ordinary skill in the art would be motivated to modify or combine references to provide the claimed subject matter of the claims to address the problems met thereby. Accordingly, the Office must provide proper evidence of a motivation, outside of Applicant's application, for modifying or combining the references to provide the claimed subject matter.

The Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a "technologically simple concept" -- which is not the case here -- there still must be some finding as to the "specific understanding or principle within the knowledge of a skilled artisan" that would motivate a person having no knowledge of the claimed subject matter to "make the combination in the manner claimed," stating that:

In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper prima facie case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000) (emphasis added). Again, it is believed that there have been no such findings.

In view of all of the foregoing, it is respectfully submitted that the combination of Hoelzer et al. and Guth et al. does not render obvious claims 7 to 9, which depend on claim 1. In re Fine, supra (any dependent claim that depends from a non-obvious independent claim is non-obvious). Therefore, withdrawal of the 35 U.S.C. §103(a) rejection and allowance of claims 7 to 9 is respectfully requested.

V. Conclusion

Attached hereto is a marked-up version of the changes made to the claims by the current Reply Under 37 C.F.R. § 1.116. The attached pages are captioned "Version with Markings to Show Changes Made."

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Version with Markings to Show Changes Made

IN THE CLAIMS:

Claims 1 and 10 have been amended, without prejudice, as follows:

1. (Amended) A sealing arrangement which includes a sealing ring having a sealing lip which is curved forward in the direction of [the] an area to be sealed off and pre-tensioned so as to surround and form a seal around [the] a circumference of a machine element to be sealed off,

wherein the sealing lip has, on [the] a side facing radially away from the machine element, at least one recess which only connects and allows flow between the area to be sealed off and [the] a surrounding area if the sealing ring is [incorrectly mounted and the sealing lip is erroneously] curved forward in the direction of the surrounding area, said at least one recess extending in the sealing lip and having a depth in a radial direction between the side facing radially away from the machine element and a side facing the machining element.

10. (Amended) A sealing arrangement for forming a seal around a machine element, comprising:

a sealing ring including a sealing lip, the sealing lip including at least one recess on a side of the sealing lip facing radially away from the machine element, said at least one recess extending in the sealing lip and having a depth in a radial direction between the side facing radially away from the machine element and a side facing the machining element.